

An aerial photograph showing a blue and white high-speed train traveling along a set of tracks that curve through a dense, green forest. To the left of the tracks, a river flows through a wooded area. The overall scene is vibrant and green, emphasizing the 'Green' theme of the report.

GREEN BONDS 2020 REPORT



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FOREWORD

More than any other event in recent times, the Covid-19 pandemic has underscored the urgent need to build a more just and sustainable world. The French State has responded with France Relance, a recovery plan that maps out a path towards a more economically, socially and environmentally sustainable future.

At SNCF, we're ready to do our part. As a committed corporate citizen, we've developed a wide range of sustainable mobility solutions for long-distance passenger transport, mass transit, freight and logistics.

But our commitment to sustainability doesn't end there. A brighter tomorrow starts with the things we do today. Which means remaining at the forefront of innovation, aiming for operational and environmental excellence, and throwing our weight behind France's goal of achieving carbon neutrality by 2050. We're already making the energy transition a reality by rolling out greener trains—hybrid, hydrogen-powered and other low-emission models—across our regional services and ordering 200 natural gas vehicles for our Geodis logistics fleet. We're also making our assets more energy-efficient, shifting to renewable energies, and stepping up our eco-design and recycling efforts.

SNCF Group has always blazed a trail. It's something that comes naturally to us as one of Europe's major industrial groups. And now we're applying that same pioneering spirit as we stake out our position as a leader in sustainable finance worldwide. Our green bonds currently total €7.2bn, making us the world's fifth-largest issuer of this type of security (excluding sovereign and bank bonds). A full €1.5bn of that total was issued in 2020 alone.

Our bonds have proven popular with investors, raising the funds we need to upgrade our rail infrastructure and, starting in 2021, to invest in zero-emission rolling stock.

In keeping with our commitment to transparency, this report documents the environmental impact of our green bond-funded investments. As with previous years' reports, it has been externally reviewed and audited. It was prepared in full accordance with the best practices outlined on page 32, which we defined and are committed to promoting as widely as possible. Above all, it underscores our determination to quantify and report on the true impact of our operations.

Long live sustainable mobility!

Jean Pierre Farandou
Laurent Trevisani

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KEY FIGURES GREEN BONDS 2020

€1,541BN

funds raised by Green Bonds
in 2020 (in 4 issues)

13.4 YEARS

average maturity

100 YEARS

the year's longest issue

48%

allocated to
Dark Green investors

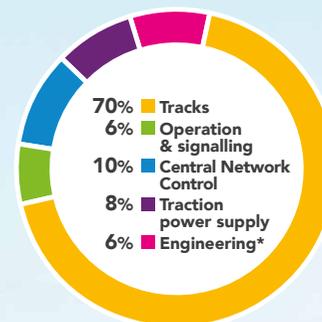
7.6 M TCO₂e

in avoided emissions in 2020

4,900 TCO₂e

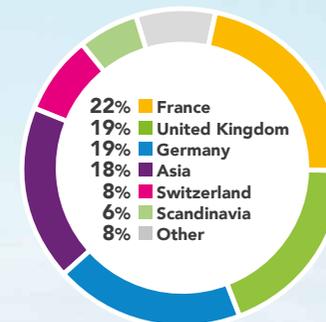
in avoided emissions per million € €
invested in 2020 issues

ALLOCATION
OF FUNDS RAISED



* tunnels, bridges & earthworks

GEOGRAPHICAL
DISTRIBUTION OF
INVESTORS



01

SNCF: A CHAMPION OF SUSTAINABLE MOBILITY



We've been at the heart of French life for over 80 years—but we never stand still. As a champion of rail and sustainable mobility, we're playing a pivotal role in the transition to a cleaner, greener future.



Solar power plant at Surdon station (northwestern France):
The facility, which stands on disused rail land released by SNCF,
supplies electricity to 3,150 homes

WHO WE ARE: A CHAMPION OF GREEN MOBILITY

SNCF is the world's second-largest provider of mobility services by revenue, with operations spanning every aspect of rail, mass transit, logistics and multimodal freight transport.

SNCF, our fully state-owned parent company, oversees the following subsidiaries:

SNCF Réseau, which manages the French rail network

SNCF Voyageurs, which handles regional and long-distance passenger rail travel

KEOLIS, which operates commuter mobility services in France and worldwide

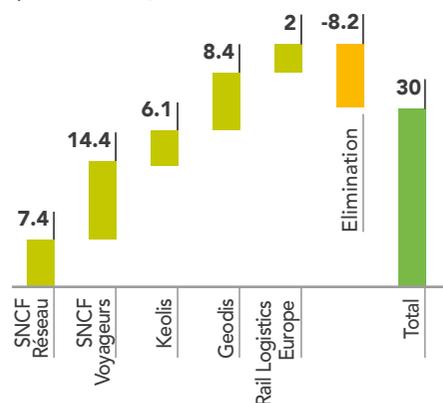
GEODIS, which specializes in freight transport logistics (supply chain optimization, freight forwarding, contract logistics, distribution & express delivery, and road transport)

Rail Logistics Europe, which oversees our rail freight and logistics operations.

As one of France's leading industrial groups, we invest €8-10bn each year, including €3-5bn of SNCF capital investment. Mostly of this is in rail, which is our core business line and the world's lowest-carbon mode of transport.

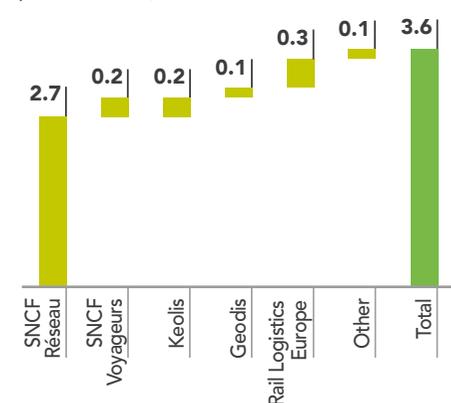
REVENUE

(per subsidiary in 2020, in €bn)



NET CAPEX

(per subsidiary in 2020, in €bn)



WHAT WE DO: OUR CORE BUSINESS LINES



MASS TRANSIT—FRANCE

We deliver integrated public transport solutions that promote regional development and meet everyone's mobility needs.

[Transilien, TER](#)



MASS TRANSIT—WORLDWIDE

We operate urban and intercity public transport services in France and around the world—bus, metro, light rail and coach networks, and more.

[Keolis](#)



LONG-DISTANCE TRAVEL

We deliver cost-effective travel solutions—shared and door-to-door—that cater to all passenger needs and budgets, raise the bar for service, and help protect the planet.

[Voyages SNCF, Intercités](#)



FREIGHT TRANSPORT AND LOGISTICS

We deliver made-to-measure multimodal solutions that combine business performance with environmental protection and safety.

[Geodis, Rail Logistics Europe](#)



NETWORK OPERATION AND MAINTENANCE

We manage, maintain, develop and sell access to the French rail network.

[SNCF Réseau](#)



STATIONS

We provide solutions for maintaining and deriving value from station assets, and boosting regional economic growth.

[SNCF Gares & Connexions](#)



CREDIT RISK ALIGNED WITH THE FRENCH STATE

Until 31 December 2019, SNCF was an EPIC (a public service company with a commercial and industrial mission, owned by the French State), which meant that it:

Was not subject to private-sector bankruptcy law

Could only be dissolved by amending legislation transferring its rights and obligations to another public entity.

On 1 January 2020, the French rail reform measures adopted in June 2018 came into effect. Key changes affecting us are detailed below:

SNCF, SNCF Réseau and SNCF Voyageurs became public limited companies (sociétés anonymes, or SAs), with 100% of the shares held directly or indirectly by the French State on a non-transferable basis (enshrined in law).

SNCF Gares & Connexions became a subsidiary of SNCF Réseau SA.

New rail market liberalization rules came into effect, with high-speed and Intercités services moving immediately onto an open-access footing, and TER regional and Transilien commuter services (which are subject to contracts with transport organizing authorities) following suit gradually between 2023 and 2039.

€35bn in debt was transferred to the French State (in two phases: €25bn with immediate effect, and a further €10bn in 2022).

We are now in a stronger financial position, allowing us to deliver on our financial commitments (free cash flow at break-even by 2022, net-debt-to-EBITDA ratio at or below 6x in 2023, and FFO-to-net-debt ratio at or above 10% in 2022).

We no longer recruit staff under France's special railway pension regime.

Buoyed by our strengths, we've been able to weather the worst effects of the Covid-19 crisis:

We continue to enjoy strong backing from the French State, our sole shareholder, which rolled out a rail industry recovery plan—including a €4.05bn capital increase for SNCF SA.

The breadth and diversity of our business model allows us to dampen the effect of cyclical fluctuations on our bottom line.

We've introduced emergency cost-cutting plans—including €1.2bn in savings in 2021—on top of our €4.2bn performance plan for 2020-2028 to ensure we can continue meeting our financial commitments.

Taken together, these factors mean our credit ratings are aligned with (one notch below) those assigned to the French State.

AGENCY	RATING	OUTLOOK
S&P	AA-	Negative
MOODY'S	Aa3	Stable
FITCH RATINGS	A+	Negative

HIGH MARKS FOR NON-FINANCIAL PERFORMANCE

The performance of SNCF Group and SNCF Réseau is regularly assessed by non-financial rating agencies such as Vigeo Eiris, Ecovadis and ISS ESG.

Vigeo Eiris recently gave SNCF Group a rating of A1+, which is the highest possible grade and places us 5th globally out of 4,879 companies audited by the agency—across all sectors—when assessed on environmental, social and governance (ESG) criteria. We also took top spot among 20 firms in the "Tourism and Transport Europe" category, scoring 74/100—a 2-point improvement on our 2019 result and a full 21 points better than we did in 2016.

We achieved impressive scores of 83/100 for our environmental management practices (which the agency called "remarkable") and 78/100 for our energy transition performance (which puts us in the advanced category on this metric).

On social engagement and environmental performance, we improved our 2019 tallies by 1 and 2 points respectively. And our human rights score came in 14 points higher, thanks in part to the extra lengths we've gone to in supporting refugees.

Regional transport organizing authorities are increasingly building social and environmental aspects into their award criteria. For instance, non-financial performance accounts for 10% of bidders' overall score under contracts recently put out to tender by the Provence-Alpes-Côte d'Azur Sud regional authority. Our top marks will therefore stand us in good stead as the French rail system opens up to competition, as well as giving us access to financing at preferential rates. What's more, these audit exercises help us pinpoint gaps in our ESG performance and identify what steps we need to take to keep improving.

SNCF

ECOVADIS	V.E
77/100	74/100
Rail transport	Tourism and Transport Europe
Top 1% of companies evaluated in this sector	1 st out of 20

02

FIGHTING CLIMATE CHANGE, PROMOTING BIODIVERSITY



A municipal tram operated by Kéolis Norge in Bergen, Norway

Eco-friendly rail and mass transit solutions play a vital role in the transition to a greener, sustainable economy, and are an integral part of reducing carbon footprints.



SNCF keeps trackside vegetation in check and train operation safe with green, sustainable solutions that work



HOW RAIL HELPS FIGHT GLOBAL WARMING

SUPPORTING A GREENER, MORE SUSTAINABLE WORLD

Rail is not just the world's safest large-scale mobility option—it also generates lower CO₂ emissions and less air and noise pollution than any other option. As a responsible corporate citizen, SNCF is dedicated to reducing carbon emissions and delivering seamless transport to one and all.

In France, rail accounts for 10% of freight and passenger transport, but generates only 1% of the transport sector's total greenhouse gas emissions.

This is due to:

- less energy expended (wheel-rail vs. tyre-road contact)
- higher-capacity loads
- electric power (used by 78% of trains operating in France), keeping in mind that only 8% of electricity in France is generated by fossil fuels.

Since transport accounts for close to 30% of total GHG emissions in France (134.1 MtCO₂eq), any modal shift from air or road to rail has a dramatic impact on emission levels.

But low CO₂ emissions are not the whole story. Rail also generates less air and noise pollution than competing modes, has fewer accidents, and makes better use of land, with less impact on biodiversity.

Since a train can carry more people and goods, it "consumes" less land area than travel by road at equal volumes.

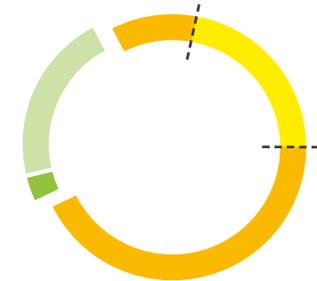
Nationwide, railways occupy a total of 87,000 hectares, compared with 1,230,000 hectares for French roads and motorways.

This lighter geographical footprint benefits natural environments by preserving biodiversity and agricultural activities.



Freight train carrying goods in the Donzère gorge along the Rhône River

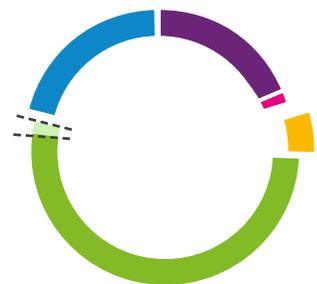
Source of GHG emissions in France (excluding LULUCF*), 2017 data



- 18.9% Agriculture
- 3.0% Waste
- 78.0% Energy consumption
- 10.9% Energy transformation
- 29.7% Transport
- 17.8% Manufacturing & construction
- 19.7% Services & residential

* LULUCF: Land Use, Land-Use Change and Forestry Source: Citepa, June 2017

GHG emissions by transport mode in France (including FOD)



- 53.2% Passenger vehicles
- 21.4% Trucks
- 19.3% Vans
- 1.2% Motorcycles
- 4.8% Off-road vehicles
- 2.8% Air transport
- 1.7% River & maritime transport
- 0.3% Rail transport

COMPARING MOBILITY OPTIONS WITH OUI.SNCF

What if you could measure the carbon footprint of your daily travels? At SNCF, we've developed a calculator that does just that, identifying choices and tracking your impact on the environment.

Since early March, SNCF online ticket sales have offered customers a chance to calculate their carbon footprint for rail journeys and compare it with other transport modes—coach, plane, private car and car sharing.

Users can also adjust their criteria for other factors and priorities: total time travelled, for example, but also "useful time" or the time available to travellers opting for mass transit to pursue another activity during their journey.

HOW IT WORKS

Passengers enter their point of departure and destination into the calculator, which then ranks mobility options based on the CO₂ produced by their journey. Less CO₂ equals greener. To bring the message home, the device converts figures into average time electric oven use in a typical French household.

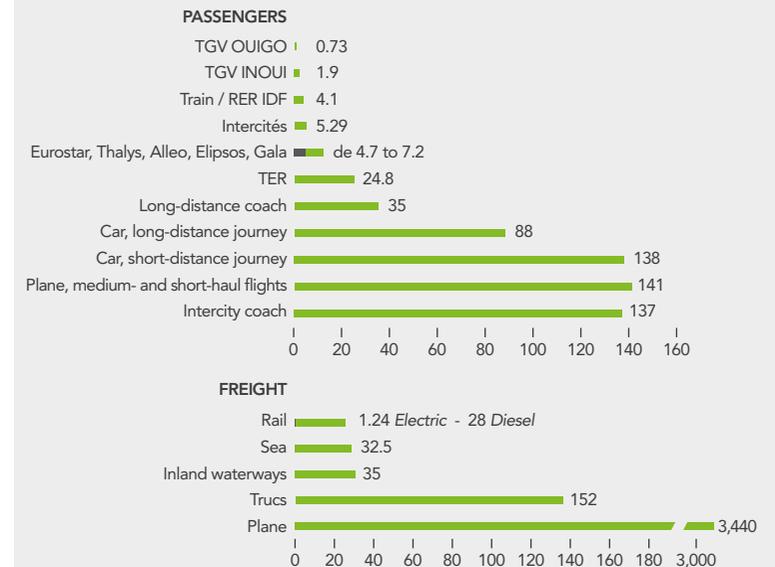
For example, a trip between Paris and Lyon represents 1 kilo of CO₂, or 1 month of oven use.



Test our calculator

GHG emissions by transport mode

In grammes of CO₂ equivalent per passenger-km





STEPPING UP FOR A GREENER PLANET

ENERGY

At SNCF, we've set two ambitious targets for 2030: reduce our transport operations' GHG emissions by 30% from 2015, and cut emissions at the properties we own, manage and use by 50%.

This will help France meet the long-term objective set by the Paris Agreement in 2015, which requires signatories to achieve carbon neutrality—net-zero emissions—by 2050. But the first major milestone in this global strategy is clearly 2030.

-30% CUT IN GHG EMISSIONS FROM TRANSPORT BY 2030

A TGV emits 80 times less CO₂ than a plane, and 50 times less than a car. But we can shrink our eco-footprint even further by reducing our energy consumption and adopting best practices to optimize what we do use.

Most of our GHG emissions are generated by traction—energy spent moving trainsets. While SNCF already scores high for its environmental performance, we are actively engaged in pioneering research to convert our diesel fleet to more sustainable alternatives.

Tests are now under way to introduce battery- and hydrogen-powered solutions, plus hybrids, for regional TERs, with 12 to 14 hydrogen trains scheduled to go into commercial service at 2025.

Reducing energy consumption is another way to boost our performance. One solution is widespread use of eco-driving techniques by our conductors (using lines' natural topographies for breaking and acceleration); introducing energy-saving measures when trains are not moving is another.

For our subsidiaries Keolis and Geodis, the aim is to increase the proportion of buses and trucks running on electricity, biogas and biofuel.

-50% CUT IN GHG EMISSIONS AT PROPERTIES BY 2030

Our strategy starts with raising energy awareness across the company. This means tracking consumption, replacing older fuel-oil heating systems; replacing high-consumption light-bulbs with LEDs, and installing better insulation. But it doesn't stop there.

At a deeper level, we must make energy conservation a reflex—part of our everyday operations.

It can be as simple as turning off the heat in maintenance sites at the end of the day, or closing train doors and lowering pantographs at night. These practices will be gradually rolled out across SNCF Group.

GREENER ENERGY

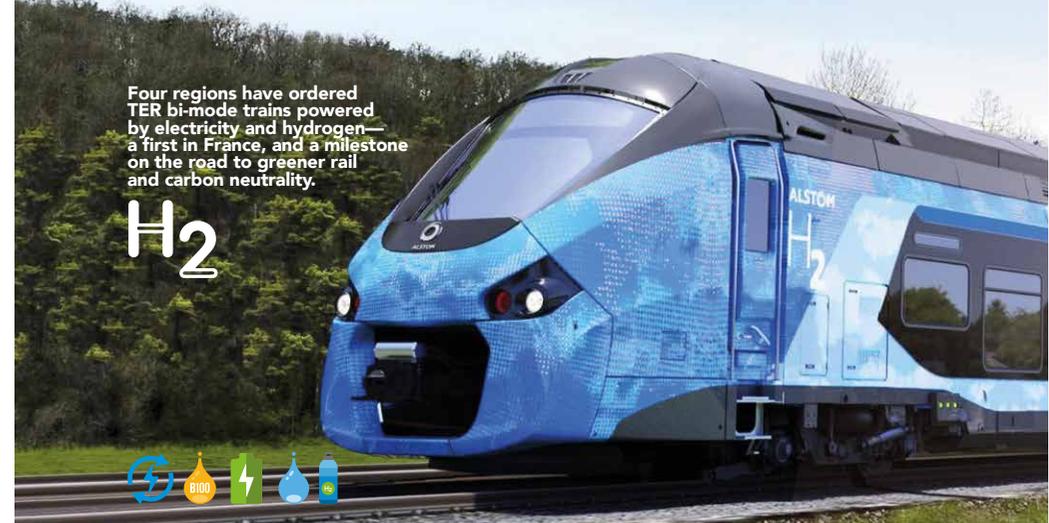
Injecting more green energy into the SNCF energy mix will also lower our GHG emissions.

Solar panels already supply part of the power we use at maintenance depots and in stations. These panels and eco-design are also an integral part of building construction and refurbishment, at both SNCF Immobilier and SNCF Gares & Connexions.

Lastly, SNCF has signed several very long-term direct purchase agreements for renewable electricity. These serve as incentives for solar park construction, since SNCF guarantees owners that it will purchase their output for the next 15-20 years.

CARBON PRICE INCLUDED FROM 2022

Starting in 2022, a carbon assessment will be priced into all investment projects. The move will generate more data and make for clearer analyses—along with better, more sustainable choices, based on the per-tonne value assigned to CO₂ emissions.



H₂



BIODIVERSITY

At SNCF Group, protecting the environment also means protecting biodiversity. Through our work with Act4nature International, we've expanded our commitment in this important sphere.

MITIGATING PRESSURE ON BIODIVERSITY

Reduce use of synthetic pesticides de synthèse through new-generation weed-spraying trains that use targeted spraying, starting in 2024.

Reduce habitat fragmentation by restoring and improving ecological continuities identified across our network: re-establish ecological waterway corridors, with at least 10 projects under way before year-end 2022.

Develop a method to evaluate potential for promoting biodiversity on our land holdings by the end of 2021, and begin regional deployment by 2022.

Promote biodiversity at rail stations and other railway sites by expanding sustainable management of green spaces between now and 2024, particularly in Paris region stations (target: 100%) and railway sites (50%). This will include public-facing communication—educa-

tion panels, brochures, etc.—to bring customers and employees on board.

PROMOTING GOVERNANCE, DIALOGUE AND AWARENESS

Hold biennial meetings of a cross-functional SNCF Group biodiversity committee starting in 2021.

Pursue partnerships with three French NGOs (FNE, FNH and LPO) until 2022, with the aim of continuing past that date.

Raise awareness among network maintenance teams targeting +10% a year, starting in 2021.

Encourage employee engagement in environmental projects through our skills-sharing programme, starting with 100 volunteers in 2021.

Put all operations on a path to full carbon neutrality by 2050 and continue issuing green bonds.

BUILDING THE KNOWLEDGE BASE

Develop a tool shared with the science community to assess our biodiversity footprint by 2025.

Continue our commitment to research and sharing best practices in CILB3 (ITTECOP landscaping initiative, 2021-24, with SNCF Réseau contributing €100,000 of a total €1.2m).



2050 SNCF GROUP TARGET FOR REACHING CARBON NEUTRALITY

SNCF RÉSEAU

OUR COMMITMENTS FOR THE ENVIRONMENT

OUR NETWORK IS OUR CORE ASSET

For the rail industry, carbon efficiency starts with an upgraded network in excellent working order. Because fighting global warming must by definition be a network-wide effort. Here our network manager SNCF Réseau is, like SNCF, working hard to promote the environment and biodiversity.

SHRINKING OUR NETWORK'S CARBON FOOTPRINT

To identify key sources of GHG emissions and reduce their output, SNCF Réseau conducts carbon assessments for all rail infrastructure projects. These measure CO₂ emissions, especially emissions relating to energy and to the consumption of concrete, steel, copper and other raw materials. Focused on continuous improvement, SNCF Réseau deploys practical projects to reduce the carbon footprint of its project.

Using fewer resources

By making eco-design a part of all projects from the start, SNCF Réseau identifies innovative solutions that use fewer resources and emit less CO₂.

The company also reuses or recycles structural components of its network, from rail and ballast to catenaries and more.

Cutting carbon

SNCF Réseau traditionally maintains a large fleet of combustion-engine powered vehicles for its projects.

To reduce their CO₂ emissions, this has now been updated to include hybrid and 100% electric vehicles.

Adapting to the consequences of climate change

Climate change is a happening now, and the first effects can already be observed on the French railway system—making construction codes and maintenance procedures absolutely vital.

— **inspection cycles:** to avoid negative impacts of climate change, targeted inspections are performed during track work,

— **heat inspections:** to prepare for hot spells, rail tracks are inspected for the slightest sign of faulty installation or maintenance, and repaired where needed,

— **weather inspections:** to avoid deterioration caused by weather, maintenance agents inspect select sites to detect the slightest issue.

Impact studies have also been carried out to better understand risk levels, based in each case on current knowledge.

The success of these initial solutions has encouraged SNCF to ramp up its efforts to adapt to global warming. The focus is currently on defining the broad lines of a roadmap to adapt, supervise and management operations as the climate changes.

SNCF Réseau set up a task force to address climate change readiness, and charged it with drawing up a long-term action plan for infrastructure.



A NEW LIFE FOR OUR ROLLING STOCK
1,500 tonnes of scrap iron were recycled in 2019, when 110 Transilien trains were withdrawn from service

2020 figures

€2.538 BN INVESTED IN TRACK UPGRADES

723 KM OF RENOVATED TRACKS

€2.145 BN INVESTED IN TEN-YEAR DEVELOPMENT PROJECTS

96% OF RAILS RECYCLED AND 4% REUSED



03

ASSET FINANCING METHODS



Engineering works under way on the Lyon-Turin line, which serves both freight and passengers

Despite intense pressure on financial markets from COVID-19, our sustainable products continued to attract investors in our first year after French rail reform.



A TER regional train passes vineyards in Mittelbergheim in eastern France

AN EXCITING NEW YEAR FOR MARKETS

WHAT CHANGED IN 2020

Significant developments during the year included the liberalization of rail markets, the transfer of €35bn in debt to the French state, and an end to SNCF hiring under the special rail pension system previously in place. But that wasn't all: we also overhauled our financing procedures.

SNCF Réseau and SNCF Voyageurs (formerly SNCF Mobilités) had been autonomous entities, but in 2020 became subsidiaries of SNCF SA, and now depend on it for their financing needs.

As a result, from 1 January 2020 on, all market financing operations (including green bond issues) were conducted by SNCF SA, with proceeds then allocated based on needs or assets to be financed.

For our green bonds, and since eligible assets were held by SNCF Réseau, this involved three stages: (i) green bonds issued by SNCF SA; (ii) proceeds received by SNCF SA, which managed them temporarily; (iii) proceeds allocated to SNCF Réseau (eligible assets) through an intragroup loan.

This third stage—the intragroup loan—ensured that an amount equal to the proceeds of our green bond issues was allocated to SNCF Réseau and used to finance this subsidiary's eligible assets.

Impact on investors

The new financing procedure had no significant impact on the quality or quantity of assets financed. In addition, our allocation rules prohibited any short-term use of proceeds to finance assets other than eligible ones. For investors, the impact was thus null.

Impact on SNCF Group

Under the new procedures, cash management at Group level is stricter, with all unallocated funds held as cash until assigned to a specific asset. Except for this requirement, the plan does not present any special challenges for SNCF Group.



SUMMARY OF GREEN BOND ACTIVITY IN 2020

Although markets came under severe pressure from March to May, with significantly lower liquidity and much higher volatility, our bonds proved very resilient. Investors appreciated SNCF Group's abundant liquidity and capacity to issue both short- and long-term debt.

In March, after our first deal as SNCF SA—a 100-year €50m green private placement [PP]—we successfully launched our first benchmark green bond, for €1.25bn with ten-year maturity.

Despite persistently difficult market conditions, the issue attracted nearly 80 investors.

The borrowing rate came to 0.72%, or OAT +57 bps.

Exceptional financing needs arising from the pandemic then led us to undertake 14 financing operations, including two green bonds: a public tap issue for €200m from the March 2030 benchmark, and a green PP for €50m maturing in 2050.

Full year—and as a direct result of the exceptional needs created by the health crisis—SNCF Group carried out the largest financing programme in its history (SNCF Réseau, SNCF Mobilités). Of the €6.8bn raised in 2020, green bonds accounted for €1.5bn, or 23% of the total.

ISSUES ALIGNED WITH BEST PRACTICE

We intend to become a global leader in green bonds and have carried out 17 green bond operations in five years, raising a total of €7.2bn. In 2020, we were Europe's third-largest green bond issuer and ranked fifth worldwide (excluding sovereign, supra and bank issues).

To meet the exacting standards in place for green financing and lead the global field in transport, our bond issues align with the 2018 version of ICMA's Green Bond Principles and we are certified under ISS-ESG's Climate Bonds Initiative (CBI).

In March 2019, we received the CBI's Green Bond Pioneer Award in recognition of the transparency and quality of our communication towards investors. This followed a first award in 2016—for our inaugural issue—and confirmed the quality of our green bond impact reporting.

As a GBP member and participant in Paris Europlace's Finance for Tomorrow initiative, SNCF is an active contributor to debate and adjustments in the green bond market, and is also a founding member of the Corporate Forum for Sustainable Finance.

ISSUES IN DETAIL

2020 OPERATIONS

ISSUER	Issues in 2020			
	SNCF SA			
RATING	AA- (S&P) / AA3 (MOODY'S) / A+ (FITCH)			
AMOUNT	€50M	€1,250M	€200M	USD50M
TENOR	27 March 2120	17 April 30	17 April 30	23 Dec. 50
ISSUE DATE	13 March 20	07 April 20	24 Nov. 20	16 Dec. 20
MATURITY	100	10	10	30
COUPON	1.280%	0.625%	0.625%	2.457%
MARGIN	OAT + 60 bps	OAT + 57 bps	OAT + 40 bps	MS + 107 bps

2020 INVESTORS—TYPOLOGY AND GEOGRAPHICAL DISTRIBUTION



48% ■ Dark Green investors
52% ■ Other investors



22% ■ France
19% ■ United Kingdom
19% ■ Germany
18% ■ Asia
8% ■ Switzerland
6% ■ Scandinavia
8% ■ Other

Issues	Geographical areas	Dark Green
<p>€50M</p> <p>First debt issue of the year, a 100-year fixed-rate private placement in EUR with a high-quality German investor. Completed at the height of the COVID crisis, the issue reassured Group investors.</p>	<p>Germany: €50M</p>	<p>100%</p>
<p>€1,250M</p> <p>First large public debt issue for SNCF SA. The syndicated operation was a fixed-rate ten-year EUR-denominated bond for €1.250bn, placed with a very diverse pool of 79 investors (mainly European and Asian).</p>	<p>France: €343M Asia: €232M United Kingdom: €218M Germany: €186M Other: €271M</p>	<p>45%</p>
<p>€200M</p> <p>Additional issue of €200m from the 2030 bond, following the €1.250bn issue at the beginning of the year.</p>	<p>United Kingdom: €80M Scandinavia: €70M Germany: €50M</p>	<p>45%</p>
<p>\$50M</p> <p>Final financing operation in 2020, a 30-year private placement in USD with a high-quality institutional investor.</p>	<p>Asia: \$50M</p>	<p>100%</p>

SNCF GROUP GREEN ISSUES

€ MILLIONS

(at 31 December 2020)

Total bond debt of SNCF entities, without taking into account the debt covered by the French debt relief mechanism



04

ALLOCATION REPORT



Rail bridge over the A4 motorway at Bussy-le-Château, northeastern France

We allocated the proceeds of SNCF green bonds to core network upgrade and modernization projects.



Engineers get ready to install the new René Cassin rail bridge in Saint-Jean-de-Maurienne in southwestern France. The structure was prefabricated off-site, then slotted into place

HOW WE ALLOCATE OUR GREEN BOND PROCEEDS

Although SNCF green bonds are identical to conventional bonds in terms of credit risk, they carry additional rules and requirements on reporting, eligibility, allocation and environmental impact assessment.

KEY PRINCIPLES OF SNCF GROUP'S GREEN BOND PROGRAMME

Our green bond programme meets the market's highest standards. Key principles include:

– Additionality:

We only allocate the proceeds of our green bonds to new projects—in other words, we cannot finance the same project from the proceeds of separate issues.

– Whole-life-cycle approach:

When assessing the carbon impact of projects, we consider emissions across the whole life cycle—from the upstream, operation and downstream phases.

– Exhaustive impact assessment:

Wherever possible, our impact assessments include direct emissions from operations (Scope 1), indirect energy-related emissions (Scope 2), and indirect upstream and downstream emissions (Scope 3).

– Objective assumptions:

Any assumptions we make—about changes in France's energy mix or in the emission factors of competing modes of transport, for instance—are arrived at objectively.

– No double counting:

Our allocation rules are designed to ensure that we never count avoided emissions twice. In practice, this means that:

- we allocate 80% of emissions to infrastructure and 20% to rolling stock for all projects, without distinction,
- where we're part-subsidizing or co-financing a project, we pro-rate our share of the avoided emissions according to our financial contribution.

PROJECT SELECTION AND ELIGIBILITY CRITERIA

Because SNCF Réseau undertakes thousands of eligible infrastructure maintenance and upgrade projects each year, it's impossible to measure avoided emissions for each one separately. Instead, we calculate benchmark values from a representative basket of operations, which we then extrapolate across the portfolio as a whole.

We use a set of criteria to make sure our portfolio only includes eligible projects.

Eligible projects fall into one of three categories:

Category 1	INVESTMENTS IN RAIL SYSTEM MAINTENANCE, UPGRADES AND ENERGY EFFICIENCY	This category includes work to re-lay tracks, replace fixed electric traction installations (FETIs) and upgrade signalling systems on the so-called "core" rail network, i.e., fully electric lines carrying the highest levels of traffic (UIC Groups 1-4). ¹
Category 2	INVESTMENTS IN NEW RAIL LINES AND LINE EXTENSIONS	This category includes the construction of new rail lines and line extensions that improve network access and enhance mobility for passengers and freight (examples include the LGV Est, LGV SEA and LGV BPL high-speed lines, and the LGV CNM high-speed bypass serving Nîmes and Montpellier,...).
Category 3	OTHER INVESTMENTS RELATED TO CLIMATE CHANGE, BIODIVERSITY PROTECTION AND NATURAL RESOURCE CONSERVATION	This category includes biodiversity protection and natural resource conservation projects on the existing network.

1. The International Union of Railways (UIC) classifies rail lines into groups according to traffic levels and types, ranging from Group 1 for the heaviest traffic to Group 9 for the lightest traffic. In France, busy main lines fall into Groups 1-4, while main lines carrying less traffic come under Groups 5 and 6. Groups 7-9 typically cover low-traffic local and regional lines.

USE OF PROCEEDS

The funds we raise through green bond issues are held in SNCF Group's cash accounts pending allocation.

Any unallocated proceeds are invested in cash, cash equivalents, bank deposits and other money-market products in line with SNCF's cash management policies and guidelines.

An independent audit firm (currently KPMG France) carries out retrospective checks on how we've used and managed these funds.

ALLOCATIONS IN DETAIL

The table below shows how we allocated the proceeds of our 2020 green bond issues by investment category.

Definitions

- **“Green Bonds: Invested”** means the amount we’ve actually invested.
- **“Green Bonds: Allocated”** means the amount allocated to each category from 2020 issues.
- **“Balance”** means eligible investments that we haven’t yet financed as of 2020.

For reporting purposes, we consider net investments in a project (i.e., allocated subsidies) without factoring in payment delays (i.e., received subsidies). We adopted this approach in 2018 to help us better track net investments over time.

IMPACT REVIEW AND CERTIFICATION

SNCF’s green bond programme meets the market’s highest standards and is framed by the four core components of ICMA’s Green Bond Principles, published in 2016.

Our 2020 Green Bond Framework is available on our website.

The Second Party Opinion, issued by ISS ESG, confirms that our green bond programme aligns with the 2018 version of ICMA’s Green Bond Principles.

ISS ESG has also certified that the programme complies with the CBI’s Low Carbon Transport Eligibility Criteria (V1.0).



Green Bond Framework



**Second party opinion (SPO)
ISS ESG**

ELIGIBLE ASSETS

In (€m)

	2016-2018		2019			2020		
	Green Bonds: Invested	Green Bonds: Allocated	Green Bonds: Invested	Green Bonds: Allocated	Balance	Green Bonds: Invested	Green Bonds: Allocated	Balance
Maintenance and upgrades	4,093	2,218	1,528	3,181	222	1,584	1,541	265
Tracks	3,070	1,760	1,068	2,223	155	1,079	1,053	181
Sidings & key sites	0	0	0	0	0	19	16	3
Operation and signalling systems	613	315	269	530	37	76	97	17
Central Network Control facilities	0	0	0	0	0	184	157	27
Traction power supply infrastructure	223	60	126	271	19	125	123	21
Tunnels, bridges and earthworks (engineering)	187	83	64	157	11	102	96	17
Other	0	0	0	0	0	0	0	0
New lines and line extensions	402	402	0	0	0	0	0	0
LGV Est Phase 2	20	20	0	0	0	0	0	0
LGV SEA	96	96	0	0	0	0	0	0
LGV BPL	200	200	0	0	0	0	0	0
LGV CNM	86	86	0	0	0	0	0	0
TOTAL	4,495	3,104	1,528	3,181	222	1,584	1,541	265

05

GREEN BOND PROGRAMME INDICATORS: REPORTING AND METHODOLOGY



Expert traffic control units at the Central Network Control facility in Lyon

We've developed a proprietary method for measuring how our investments reduce greenhouse gas emissions and help protect resources.



The TGV Est high-speed line

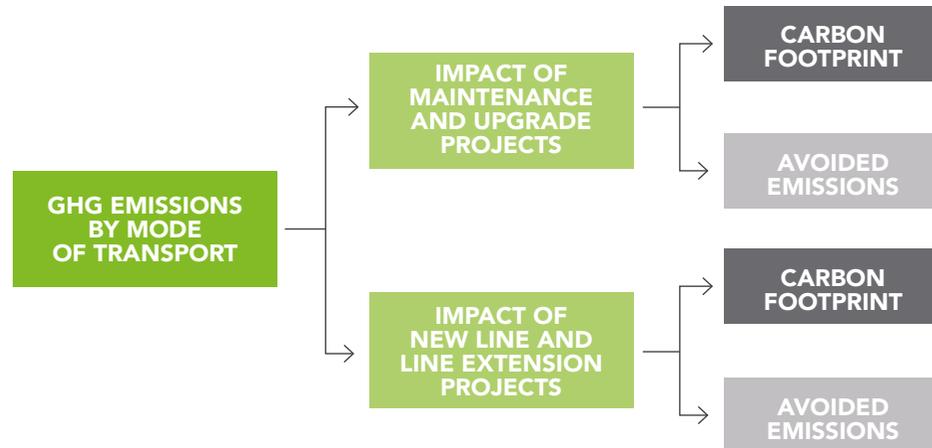
CATEGORY-BY-CATEGORY REPORTING

We wanted to build a clear picture of how the projects we finance through our green bond issues help reduce greenhouse gas (GHG) emissions. So we teamed up with Carbone 4¹ to develop a **proprietary methodology**² for measuring the carbon impact of these projects.

We calculate a project's carbon impact by comparing its **carbon footprint**—the emissions it generates—against **avoided emissions** in the operation phase:

- To calculate the **carbon footprint**, we use established carbon assessment methods to determine **the total emissions produced by a maintenance, upgrade or new line project**.³
- To calculate **avoided emissions**, we compare transport-system emissions in **two scenarios: the first where we complete the project, and the second where we do nothing**.

Under this method, **the carbon impact of a green bond-financed project is defined as project-generated emissions minus avoided emissions**.



1. Carbone 4 is an independent consulting firm specialized in low-carbon strategy and climate-change adaptation.
 2. The methodology is available at: www.sncf-reseau.com/fr/documentation/finance/carbon-methodology-green-bond-programme.
 3. The assessment covers all upstream and downstream emissions (direct and indirect) but excludes emissions from infrastructure operation and routine maintenance.

Given the sheer number of projects we carry out each year, we can't measure the impact of each one separately. Instead, we use a basket of representative projects and extrapolate these values across our portfolio, reporting per million euros (€m) invested.

For extrapolation purposes, we employ a series of ratios (per €m invested) to calculate the carbon impact of our projects. Note that these ratios are liable to change from one year to the next, based on in-house analysis and research.

CARBON FOOTPRINT RATIOS

We divide green bond investments in maintenance and upgrade projects into three sub-categories: track, catenary and signalling works.

Track ratio:

This ratio covers the replacement of worn track, ballast and sleepers. The value of the Track ratio is 456 tCO_{2e} per €m invested. This figure is based on a carbon footprint assessment of replacement works carried out between Gevrey and Sennecey in eastern France in 2017. The Track ratio is also used for engineering works (tunnels, bridges and earthworks).

Lineside Equipment ratio:

This ratio covers the replacement of lineside equipment (i.e., points and junctions). The value of the Lineside Equipment ratio is 95 tCO_{2e} per €m invested. This figure is based on a carbon footprint assessment of works carried out at Paris-Austerlitz station in 2018.

Fixed Electric Traction Installations (FETI) ratio:

This ratio covers the replacement or maintenance of FETIs—a category that includes all systems that supply power to trains on the network (such as overhead lines, masts and substations). The value of the FETI ratio is 90 tCO_{2e} per €m invested. This figure is based on a life-cycle analysis carried out in 2016.

Signalling ratio:

This ratio covers the replacement or maintenance of rail signalling systems. The value of the Signalling ratio is 380 tCO_{2e} per €m invested. This figure is based on monetary emission factors from the Base Carbone, a public database administered by the French Environment and Energy Management Agency (Ademe).

AVOIDED EMISSIONS RATIO

The avoided emissions ratio is calculated by analyzing modal shift from financially representative maintenance and upgrade projects.

The 2020 ratio is based on 26 projects carried out between 2016 and 2018, representing combined investment of around €1.2bn. The value applied for 2020 was 123 tCO_{2e} per €m invested.

SNCF Réseau plans to add a further 10 projects to its calculation base for 2021.

INVESTMENTS IN RAIL SYSTEM MAINTENANCE, UPGRADES AND ENERGY EFFICIENCY

We calculate the carbon impact of green bond-financed expenditures by deducting total avoided emissions from the carbon footprint of the related works.

Thanks to the projects funded by our green bond issues in 2020, we've

prevented **7.6 million tonnes of CO₂ equivalent from being released into the atmosphere.**

That's equal to the carbon footprint of around **18,000 people in France over 40 years.**

CARBON IMPACT OF GREEN BOND-FINANCED MAINTENANCE AND UPGRADE EXPENDITURES

	Tracks	FETIs	Signalling	Engineering	TOTAL
2020 GREEN BOND-FINANCED EXPENDITURES (€M)	1,069	123	254	96	1,542
CARBON FOOTPRINT (thousands of tCO₂e)					
... ALLOCATED TO GREEN BOND-FINANCED EXPENDITURES	488	11	97	44	640
AVOIDED EMISSIONS (thousands of tCO₂e)					
... ALLOCATED TO GREEN BOND-FINANCED EXPENDITURES	5,717	658	1,358	513	8,246
CARBON IMPACT (footprint minus avoided emissions) (thousands of tCO₂e)					
... ALLOCATED TO GREEN BOND-FINANCED EXPENDITURES	-5,229	-647	-1,261	-469	-7,606
AVERAGE TIME TO CARBON NEUTRALITY FOR MAINTENANCE AND UPGRADE PROJECTS	3.4 YEARS				

OTHER IMPACTS OF 2020 GREEN BOND-FINANCED EXPENDITURES

Category	Indicator	Result
Investments in rail system maintenance, upgrades and energy efficiency	Resource conservation	
	Share of rails recycled and reused	100%
	Share of ballast reused by high-output renewal trains	30-50%
	Volume of wooden sleepers recycled for energy purposes (tonnes)	51,784

SUMMARY OF CARBON IMPACT, 2016–2020

Through projects funded by our green bond issues between 2016 and 2020, we've prevented 33.5 million tonnes of CO₂ equivalent from being released into the atmosphere over 40 years—around the same footprint as **70,000 people.**

ALLOCATION OF PROCEEDS TO ELIGIBLE PROJECTS (€M)

	Tracks	FETIs	Signalling	Engineering	New lines & extensions	TOTAL
2016	590	20	100	0	175	885
2017	1,169	40	215	83	0	1,507
2018/19	2,223	271	530	157	0	3,181
2020	1,069	123	254	96	0	1,542
TOTAL	5,051	454	1,099	336	175	7,115

CARBON IMPACT OF MAINTENANCE, UPGRADE, NEW LINE AND LINE EXTENSION PROJECTS (THOUSANDS OF TCO₂e)

	Tracks	FETIs	Signalling	Engineering	New lines & extensions	TOTAL
2016	-2,326	20	-312	0	-190	-2,918
2017	-4,500	40	-671	-332	0	-5,682
2018/19	-12,072	271	-2,785	-816	0	-17,174
2020	-5,229		-1,261	-469	0	-7,606
TOTAL	-24,127	-2,417	-5,029	-1,617	-190	-33,380

For details of calculations, assumptions, estimates and extrapolations, as well as source data per year, refer to the SNCF methodological guide "Evaluer l'impact carbone d'un programme Green bonds dédié aux investisseurs dans les infrastructures ferroviaires", which is available (in French only) at www.sncf-reseau.com/en

KPMG ASSURANCE REPORT

We appointed KPMG to give independent assurance on the completeness and authenticity of the information disclosed in this report.

Key findings and conclusions from the KPMG assurance report:

In compliance with the engagement entrusted to us, we hereby provide a limited-assurance conclusion on whether the information (hereinafter the **"Verified Information"**) published in the Green Bond Report 2020 relating to the green bonds issued by SNCF SA (hereinafter the **"Annual Report"**) has been presented, in all material aspects, in accordance with the **Guidelines** defined below.

The Guidelines comprise the following documents:

- The Green Bond Framework prepared by SNCF SA and included in the Second Party Option issued by non-financial rating agency ISS ESG prior to and after the green bond issue
- The methodological guide for the green bond programme, entitled "Evaluer l'impact carbone des investissements d'infrastructures ferroviaires - Septembre 2017" (hereinafter the "Methodological Guide"), prepared by SNCF SA with input from consulting firm Carbone 4.

Independence and quality control

We apply International Standard on Quality Control 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

Conclusion

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Based on the work we have carried out, nothing has come to our attention that causes us to believe that the Verified Information is not presented in the Annual Report, in all material respects, in accordance with the Guidelines, including with regard to:

- compliance of the projects mentioned under "Impact review and certification" in "04/ Allocation report" (page 35) with the eligibility criteria defined by SNCF SA in its Green Bond Framework, which themselves comply with the criteria of the Climate Bonds Standard
- allocation of proceeds from green bond issues to the eligible projects mentioned under "Allocations in detail" in "04/ Allocation report" (pages 34 and 35)
- the description of the proceeds management policy mentioned under "Use of proceeds" in "04/ Allocation report" (page 33)
- the indicator "Total carbon impact of green bond-financed expenditures at 31 December 2020" appearing in the table under "Summary" in "05/ Green bond programme indicators: Reporting and methodology" (page 41).

MANAGEMENT'S RESPONSIBILITY WITH REGARD TO THE VERIFIED INFORMATION

VERIFIED INFORMATION	WHERE TO LOOK IN THIS REPORT	WHERE TO LOOK IN THE GUIDELINES
Compliance of "eligible" projects with green bond eligibility criteria, which themselves comply with the criteria of the Climate Bonds Standard	§ "Impact review and certification" in "04/ Allocation report" (pages 34 and 35)	Green Bond Framework: § "2.1 Use of Proceeds"
Allocation of proceeds from green bonds to eligible projects	§ "Allocations in detail" in "04/ Allocation report" (pages 34 and 35)	Green Bond Framework: § "2.1 Use of Proceeds" and "2.3 Selection Process"
Description of proceeds management policy	§ "Use of proceeds" in "04/ Allocation report" (page 33)	Green Bond Framework: § "2.4 Management of Proceeds"
Indicator: "Total carbon impact of green bond-financed expenditures"	Table under "Summary" in "05/ Green bond programme indicators: Reporting and methodology" (page 41)	Methodological Guide

FURTHER READING



A TER regional train passes a church in Wesserling in eastern France

Find all our sustainable finance documentation on the SNCF and SNCF Réseau websites

Download all our green bond programme documentation (Green Bond Framework, Second Party Option and more) from the "Sustainable finance" section of the SNCF Réseau website



Sustainable finance documentation

sncf.com/en/commitments/sustainable-development

For full details of the SNCF Réseau CSR policy, head to the relevant section of the SNCF Réseau website



SNCF Réseau CSR policy

sncf-reseau.com/en/promises

Read the SNCF Responsible Business Report



2019 Responsible Business Report

medias.sncf.com/sncfcom/ese/CSR_REPORT_SNCF_2019.pdf

Learn more about the SNCF Réseau green bond programme methodology



Green bond programme methodology

sncf-reseau.com/fr/documentation/finance/carbon-methodology-green-bond-programme

Find all our CSR reports, indicators and methodologies on the "Reports and indicators" page



CSR reports

sncf.com/en/commitments/sustainable-development

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